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Trade Horizons for California Agriculture

by

David Roland-Holst

The landscape of international agricultural markets will change rapidly in the coming decade, and California's farmers are positioned to reap unprecedented gains from this process. A unique confluence of political, technological and demographic forces arising with globalization will open new markets and expand incentives for innovation and long term productivity growth.

Globalization is already a household word, but around the dinner tables of rural California, it usually arises in conversation about inexpensive consumer goods. This perception will be changing soon, as U.S. agriculture emerges from a cocoon of trade barriers and takes flight across a wide new horizon of global export opportunities. The current round of World Trade Organization (WTO) negotiations represents a watershed event for global agriculture. For the first time in history, significant agricultural protection is on the bargaining table, including over $300 billion of direct and indirect farm support in industrialized countries, those from the Organization for Economic Cooperation and Development (OECD). Substantive agreement on reducing the trade distorting components of these programs would transform international food markets in ways that are only beginning to be understood. Producers around the nation are understandably concerned about reduced support levels. Several important factors, however, indicate that California agriculture could benefit dramatically from expanding international trade horizons.

Global Farm Support versus Global Competitiveness

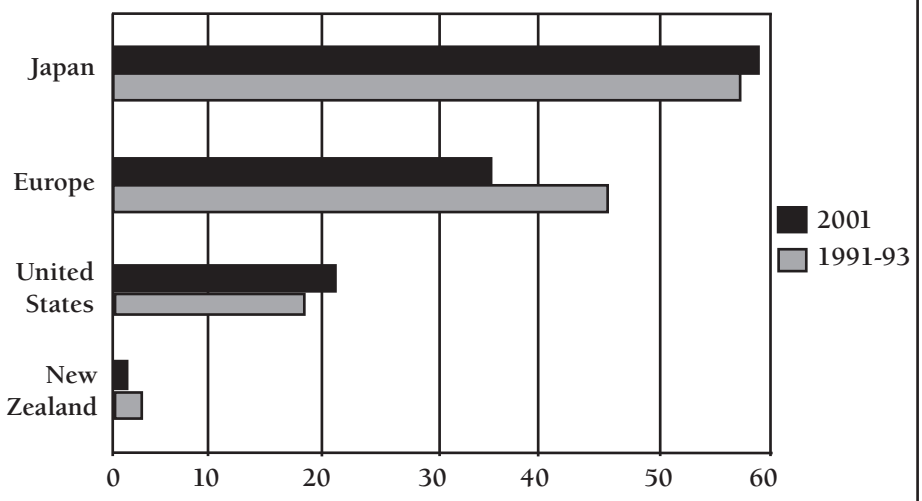
As a whole, United States agriculture stands to gain from further trade liberalization for two reasons: 1) U.S. average protection levels for agricultural products are lower than those of our major trading partners (Europe, Japan and Korea), and 2) The way we support agriculture at home is less trade distorting. As indicated in Figure 1 on page 2, U.S. and European agriculture currently enjoy significant farm price support, but Europe is well ahead (in support per dollar of crop value as well as total support). Indeed, the U.S. is closer to the so-called Cairns Group of internationally competitive agricultural exporters (e.g., New Zealand) than to Europe and high income Asia, and thus will be a net beneficiary of multilateral reductions in agricultural protectionism. Japan and Korea use very high import tariffs to protect rice and other crops. In recognition of these facts, the U.S. trade representative is working hard to level the international playing field for food trade, and this process will further improve the competitive position of U.S. farmers.

Also in this issue.....

In the next issue.....

Bt Crops Can Have Substantial Yield Effects
by Matin Qaim and David Zilberman

Figure 1. Agricultural Subsidies



Source: OECD

By the same token, average California farm support is below national averages, with producer subsidy equivalents (PSEs) in many of its leading crops that are a fraction of those covering mainstream cereals and other Midwestern staples. Moreover, California farmers have almost no reliance on prohibitive trade interventions like those sheltering domestic peanut and sugar producers. Indeed, Californians are already effective international competitors in a broad spectrum of specialty crops with very low domestic subsidies and little or no trade protection. For these reasons, we can expect California to capture a disproportionate share of the competitive advantage from liberalizing global food trade.

A final source of competitiveness, at least over the short and medium term, is the U.S. exchange rate. After decades of record trade deficits and countervailing foreign capital inflows, the U.S. appears to be undergoing a significant structural adjustment. Many experts agree that the dollar has begun a significant downward trend that will probably only stabilize when the historical imbalances come back to more sustainable levels. Forward currency markets have already priced a 10 percent depreciation of the dollar over 2003, but many experts believe this is conservative. Of course the silver lining to a declining currency is increased export competitiveness, and this fact should not be lost on California's farmers. Because they have very low import content, U.S. agricultural products will enjoy the full advantages of lower foreign currency prices against most of our established foreign competitors.

Silicon Valley in the Central Valley?

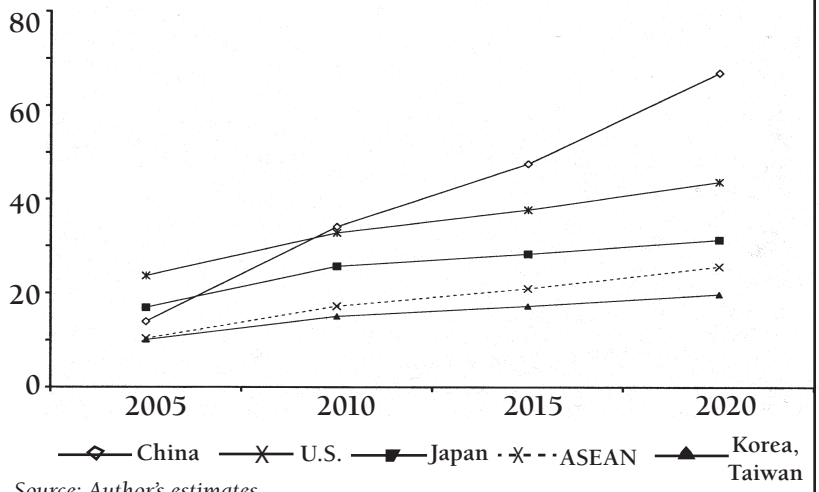
During the last decade, California has become an emergent leader in development and propagation of agricultural biotech and precision farming methods. Both the hardware and software supporting these technologies are increasingly home grown, as dedicated state and federal commitments to research, extension and implementation have accelerated innovation and productivity, stimulating higher rates of adoption and farm profitability. The end result is a virtuous circle of discovery, implementation and profitability that in many ways resembles our own Silicon Valley. Indeed, there are already a myriad of direct linkages between the Central and Silicon valleys, particularly across technology markets and within universities.

The practical significance of this analogy is already apparent within California, where farm efficiency continues to rise, resources are being used more sustainably, and quality and safety consistently improve. What we have accomplished at home, however, portends great opportunities abroad if we choose to translate our experience into global entrepreneurship. Now it is time to leverage this relationship and globalize California's agricultural technology. Just as California became a leading innovator and exporter in computer technology, so can biotechnology and precision farming techniques confer benefits on farmers and food consumers around the world. This example could be a blueprint for the internationalization of the state's agricultural enterprise.

Like the computer industry, California's technology edge in agriculture is not merely a competitive export advantage, but also an agenda for profitable outbound foreign investment. California based agrotech businesses have much to offer countries that are more technology and resource constrained,

particularly fast growing and populous economies like China, who need to expand food capacity in marginally productive land or are dependent on other scarce resources (energy, water, etc.). Technology-driven foreign direct investment like this became a hallmark of our own IT revolution of the last two decades. U.S. technology firms leveraged domestic innovation into first-mover advantages that rapidly expanded their opportunities in foreign markets. Given our leadership in so many aspects of agricultural technology, the same opportunity presents itself in farming. If they are as determined to become national and global technology leaders, agricultural businesses, researchers and entrepreneurial visionaries in California should emulate this model.

Figure 2. Forecasted Agricultural Imports (billions of 1997 U.S. dollars)



Source: Author's estimates.
ASEAN denotes the Association of Southeast Asian Nations.

Emergent Asian Food Demand

Until now, discussion has focused on supply side issues, yet the demand side of the world food equation is changing at least as fast. As OECD populations stabilize numerically and begin to age, their food demand levels off and shifts away from carbohydrates and fats. These trends are not rapid enough to upset global food markets, but demand shifts in other parts of the world are potentially more dramatic. In populous Asia generally, and China in particular, food requirements are expanding against a backdrop of serious capacity constraints, revealing the prospect of rapidly emerging new markets for U.S. farmers.

My own forecasts for Chinese economic growth indicate that this country could become the world's largest food importer by 2010 (Figure 2). To see how such a trend can develop, we need to take a closer look at the way food demand changes with income. Economists have long recognized that consumers spend a larger share of their income on meat and other "luxury" foods as their incomes rise, while the share going to subsistence foods (mainly staple starches) declines. The former foods are usually more expensive because they are more resource-intensive. Meat, for example, is a resource-intensive source of protein because one gram requires an average of 20 grams of vegetable protein (feed) to produce it.

Combining these two facts leads to a prediction that, even if China's population remained constant, its projected income growth could lead to food demand that required doubling its current agricultural capacity. At the same time, the supply of arable land in this country continues to shrink because of displacement, as farmland is converted to industrial use in the fast growing (but agriculturally most productive) southern coastal region. China has surprised many observers with its productivity growth, particularly in small animal production. These activities, concentrated in the fast growing southern export zones, are already encountering serious constraints, however, including waste management and public health standards. There appears to be significant promise for ruminant production in Western China, but it is very unlikely that this will develop rapidly enough to meet emergent domestic demand. In any case, even optimistic Chinese growth scenarios cannot be realistic unless they anticipate heavy infusions of imported agricultural technology, capital, and, unavoidably, ever larger volumes of imported products (especially cereals and other feed products). Despite its vast labor pool, China remains a very resource constrained economy, with less arable land per capita than any other populous nation.

China's growing food import dependence will be a windfall to Midwestern producers of meat, cereals and soybeans, but California will also be a major

beneficiary in higher value products such as fruits, nuts, salads and other specialty crops. Because these are more often final consumer goods, California's crops will also capture more value added for the state than primary foods such as wheat and soybeans. Meanwhile, imports of Chinese and other Asian labor intensive crops, like garlic and specialty foods, may continue to rise, but will be more than offset by expanding exports because of sharply differing growth rates of demand in the two economies.

High Income Asia

Another expanding trade horizon for California agriculture is high income Asia, especially Japan and Korea. These are already well-established trading partners, but import protection in both countries continues to forestall many opportunities for U.S. farmers (see Figure 1). Most significant among these commodities is, of course, rice, imports of which are virtually prohibited in both economies. Japanese farmers provide 93 percent of the rice consumed in their country, and consumers currently pay about five times the world price for this commodity. Japan has a small concessionary rice import scheme, but then sends half the imported rice back out of the country as food aid to developing countries. In Korea, self-sufficiency is also the primary objective rice policy, with the OECD's highest subsidy rate on this commodity (73 percent of the producer price). If the current WTO round is successful, the world's second largest economy and its more affluent neighbors will begin buying their primary staple food on world markets, and California rice farmers can expect to see the results immediately. These relatively affluent consumers will experience a positive income effect from discounting an essential component of their diet, and can be expected to spend part of the savings on other, higher value agricultural products. Because of its success in expanding specialty food production, California again will be in a position to capture the benefits.

Conclusion

International food trade is probably as old as the concept of nation itself, yet it is fair to say that the first century of this millennium will see unprecedented change in global agricultural markets. Technology diffusion, rapid proliferation of mass food marketing (both restaurants and supermarkets), continued international supply chain decomposition in food production, and shifting patterns of global food demand are all contributing to a changed landscape of agricultural trade. At the same time, WTO initiatives to level the international playing field promise to accelerate U.S. farm exports dramatically. Provided they do not isolate themselves from this process, California's farmers can reap huge benefits from the globalization of agriculture.

For additional information, the author suggests:

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Not So Cool? Economic Implications of Mandatory Country-of-Origin Labeling

by

Colin A. Carter and Alix Peterson Zwane

The 2002 Farm Bill mandated country-of-origin-labeling for fresh and frozen food commodities. This regulation provides uncertain benefits unlikely to exceed its costs. As a form of protectionism, it may be especially costly for export-dependent California agriculture.

Japan has mandatory country-of-origin retail labeling requirements for agricultural products that principally affect fruits, vegetables and animal products–a scheme that is generally regarded by the rest of the world as protectionist. In the U.S., some states such as Florida also require country-of-origin labeling of fresh fruits and vegetables. Now the entire United States is getting in on the act. The 2002 U.S. Farm Bill mandated country-of-origin-labeling (COOL) for fresh and frozen food commodities such as beef, pork, lamb, fish, fruits and vegetables, and peanuts. The new law will take effect in September 2004. Is this a good idea for California agriculture? We do not think so and the purpose of this article is to explain why.

The Simple Economics of Country-of-Origin Labeling

The direct costs of COOL will include the costs of segregating and tracking product origins throughout the marketing chain, enforcement costs, and distorted producer and consumer prices. Some foreign products will even be taken off the retail shelves.

The U.S. government itself forecasts that domestic producers, food-handlers and retailers will spend $2 billion on COOL in the first year. The Food Marketing Institute estimates that compliance by fruit and vegetable suppliers alone will cost $1.3 billion annually. The U.S. General Accounting Office (GAO) reports that the cost of monitoring COOL for produce will be about $56 million annually. From a policy perspective, whether these costs outweigh the benefits to society of the program, and the extent to which retailers, producers and consumers will share these costs, are of equal importance.

COOL imposes a "deadweight" cost because it creates a wedge between producer and consumer prices, much as a per-unit tax does. It will raise the consumer price and lower the producer price for most products. Imported products will be scarcer at the retail level. Putting aside any potential benefits of the information contained in COOL, higher prices for consumers means that demand for labeled products will fall and profits for suppliers will decline accordingly. How much demand falls depends on consumers' willingness to substitute away from labeled products to unlabeled goods (e.g., from beef to chicken, which is not subject to the regulation).

Supporters of COOL often point to consumer surveys that show they have a stated preference for country-of-origin food labeling, but economic logic and empirical evidence both suggest that the benefits of COOL are unlikely to outweigh the costs of compliance. It is true that consumer surveys indicate that American consumers say they would prefer to buy U.S. food products if all other factors were equal, and that consumers believe American food products are safer than imports. These surveys also suggest that labeling information about freshness, nutrition, storage and preparation tips is more important to consumers than country-of-origin. More tellingly, the fact that producers have not found it profitable to voluntarily provide COOL to customers is strong evidence that willingness to pay for this information does not outweigh the cost of providing it. This view is consistent with the conclusion of the U.S. Food Safety and Inspection Service that there is no evidence that "a price premium engendered by country-of-origin labeling will occur, and, if it does, [that it] will be large or persist over the long term."

Some foods are now voluntarily labeled for a variety of reasons. Producers of organic products have voluntarily labeled their products to try to capture a price premium, as have producers of "dolphin-safe" tuna. If demand for information exists,

the agricultural and food industry has generally been quick to seize this opportunity. This is the reason that lamb imports from Australia and New Zealand bear country-of-origin labels going beyond legal requirements: consumers prefer this product to domestic lamb. The USDA previously created a voluntary COOL program. It has not been widely adopted.

There are other non-economic arguments that are used to support mandatory COOL that relate to food safety. It is possible that COOL would make tracing disease outbreaks easier, thus reducing the health costs of food-related diseases. This is less likely than might initially seem to be the case, because of the long delay between disease outbreaks and the shipment of contaminated products. If domestic products are systematically safer than foreign products, substitution towards domestic goods could also increase the average safety level of food consumed. However, there is no scientific evidence that demonstrates foreign food products are less safe than domestic products. Existing inspection rules ensure that foreign and domestic meats adhere to the same standards. Foreign fruits and vegetables do not carry more pesticide residue than domestic produce does.

Explaining Political Support for COOL–It is Simple Protectionism

Not surprisingly, many retailers have argued that the cost of COOL implementation will be excessive. These costs will be borne by the private sector, as the Farm Bill provides no funds to alleviate industry costs for developing and maintaining the necessary record-keeping systems. While retailers' organizations, like the Food Marketing Institute, are against mandatory COOL, the strongest criticism has come from the meatpacking and processing industry. In particular, the costs of tracking and labeling the origin of ground meat products will be high.

The American Meat Institute has pointed out that COOL regulation will result in companies sourcing their meat domestically in order to simplify compliance with labeling requirements. As a result, consumers will not have access to a variety of imported meat that may be either of higher quality or a better price. The National Pork Producer's Council estimates that the cost of COOL implementation will translate into a $0.08 per pound increase in the average retail cost of pork.

Agricultural producers are a more easily identifiable constituency for members of Congress than consumers, retailers and even meat packers. Growers and ranchers have largely supported COOL. The California Farm Bureau, among other such organizations, has endorsed the COOL regulation. These organizations generally argue that consumers have a "right to know" the country-of-origin, and that COOL is a valuable "marketing tool." However, some grower organizations have openly characterized COOL as relief from foreign competition. We believe this support from California farm groups is shortsighted because it sends a message to trading partners that U.S. agriculture is protectionist. Foreign markets are extremely important to California agriculture, and so the state's industry has a huge stake in increased trade liberalization, not more protectionism. See, for example, the article by David Roland-Holst in this issue of the *ARE Update*.

Table 1 provides a comparison of origin labeling regulations in other countries compared to the provisions in the U.S. Farm Bill. In 2002, the EU required member states to label all beef at the retail level, including ground beef, with information on the country of birth, place of fattening and slaughter. Canada, Mexico and Japan all have some version of COOL regulation though only Japan has rules as strict as those in the 2002 Farm Bill.

One of the main arguments in favor of COOL, discussed above, has also been used to justify mandatory labeling of genetically modified (GM) food in Europe. That is, the consumer has a "right to know" what they are eating. The U.S. government has strongly opposed mandatory GM labeling, and for good reason. In practice, GM labeling has not given EU consumers greater choice, because food processors in Europe have recombined ingredients away from GM food to avoid labeling. The same phenomenon has taken place in Japan. This pattern may well develop with COOL and therefore U.S. consumers will not be given a choice because imported labeled food will not be made readily available. Instead, the imported commodity will be processed, re-exported or sold into the restaurant or food service industry, to avoid COOL.

As a non-tariff barrier to trade, COOL may be challenged at the WTO, or at least become subject to negotiation. COOL compliance may be most costly for developing country suppliers to the U.S. market who lack record-keeping infrastructure to maintain

Table 1. Comparison of Country-of-Origin Food Labeling Requirements

	U.S. Farm Bill	Japan	Australia & New Zealand	Canada	Mexico	EU
Retail COOL for fresh produce?	YES	YES	NO	Varies- Ontario and Quebec only	NO	YES
Comments	Florida has had mandatory COOL since 1980	About 10 popular products covered	Proposal under consideration	Provincial decision	Grapes, avocados and mangos have specific rules	
Retail COOL for fresh meats?	YES	YES	NO	YES- Pre-packaged meat, NO- imported meat processed in Canada	YES- Pre-packaged meat NO- imported meat processed in Mexico	YES
Comments	Exception for processed products	Full traceability within domestic beef industry	Proposal under consideration	"Processed" determined by a rule of 51% value added (including labor)		Label must indicate country of birth, fattening and slaughter

Source: Compiled from various USDA Foreign Agricultural Service attaché reports available at www.fas.usda.gov/scriptsw/attacherep/default.asp.

audit trails. To this extent, COOL directly conflicts with the spirit of trade liberalization in the current WTO round, which aims to give preference to the trade agendas of developing countries.

The U.S. Export Enhancement Program (EEP) offers export subsidies which purportedly offset export subsidies and trade distortions used by export competitors, such as the EU. To continue to justify EEP spending, U.S. Congress expanded its list of unfair trade practices to include "unjustified trade restrictions or commercial requirements, such as labeling, that affect new technologies, including biotechnology." The irony of this new requirement in the same piece of legislation mandating country-of-origin labeling will not be lost on U.S. trading partners.

California growers have a great deal to gain from breaking down foreign trade barriers for fruits and vegetables. This is less true for Florida growers, who are not as dependent on foreign markets as California is. Thus, COOL may be cool for Florida growers but not so cool for California farmers.

For additional information, the authors suggest:

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Faculty Profile

Alix Peterson Zwane is an Assistant Cooperative Extension Specialist in the Department of Agricultural and Resource Economics at UC Berkeley. Alix received her Ph.D. in Public Policy from Harvard University in 2002.

Alix's recent research in the areas of environmental and resource economics has focused on climate change and deforestation. Her dissertation research on deforestation investigates whether available evidence supports the common hypothesis that households living near tropical forests clear additional land over time because they cannot finance desired agricultural investments. Using data from Peru, Alix shows that income is positively correlated with land clearing, though at a decreasing rate, and, that because of labor market constraints, land clearing is positively correlated with household size. Marginal increases in income are not associated with increased fertilizer expenditure. In this case, policies to reduce both poverty and deforestation may exist, but small increases in incomes of the poorest are unlikely to reduce deforestation. Targeted support for the purchase of inputs and improvements in local labor markets may be more effective tools to raise incomes and reduce pressure on forests.

Her work on climate change enters the debate over an international climate change regime. In a paper published in the *Journal of Environmental Economics and Management*, Jeffrey Sachs, Theodore Panayotou and Alix suggest a means by which equity concerns may be addressed in treaty negotiations. They develop a system of income transfers that is motivated by the difference between the damage caused by a country and the damage suffered by that country as a result of climate change. Their results suggest that transfers flow from temperate to tropical countries, but the degree of uncertainty associated with these calculations is very large.

Alix's ongoing research and outreach focuses on issues at the intersection of globalization, the environment and agriculture. With Colin Carter at UC Davis, she has analyzed the impacts of the recent Farm Bill for California's agricultural trade, with particular emphasis on the new requirement that fresh fruits and vegetables be labeled at the retail level to inform consumers of their country of origin.

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They wrote an article on this topic which appears in this issue of the *ARE Update*. Other research investigates how the private sector might be encouraged to invest in R&D for tropical agriculture. She hopes to help organize a conference on globalization and agriculture for the Fall of 2003.

While at Harvard, Alix was based at the Center for International Development at the Kennedy School of Government where she taught in Executive Education courses on climate change and development and did other consulting and outreach work. This experience helped prepare her for the challenges of Cooperative Extension.

Alix and her husband, Thabiso Zwane, live in San Francisco with their cats. They enjoy cooking and gardening. Long-time Bostonians, they are exploring Northern California. In response to a frequently asked question: her last name is pronounced "zwah-neh."

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Do Farms Provide More Than Food? Public Perspectives in California

by

Guillaume Gruere, Karen Klonsky and Rachael E. Goodhue

Focus groups in two locations in California were used to examine preferences of town residents, rural residents and farmers for reducing the negative environmental externalities from agriculture, preserving farmland, and protecting farmland from development.

Positive benefits from agriculture production, beyond producing food and fiber, include the viability of rural communities, open space, biodiversity, cultural heritage, flood prevention, wildlife habitat and scenic landscape. The multifunctionality of agriculture is increasingly important in the design of agricultural and rural policy, including the regulation of agricultural production. Government payments to agriculture in Organization for Economic Cooperation and Development (OECD) countries are becoming conditional on meeting the objective of enhancing the positive multifunctional characteristics of agriculture. New policies include non-trade concerns such as food security, the viability of rural communities and protecting the environment. In particular, protecting the environment means reducing negative externalities from agri-culture, such as water pollution, dust and noise.

Ideally, the objectives emphasized by "multifunctional" policies should reflect preferences across all functions of agriculture. Social preferences for benefits from agriculture and avoiding externalities are undoubtedly different between geographic regions and across stakeholders. In our research project, we examined social preferences in California for the three objectives of reducing the negative environmental externalities produced by agriculture, preserving farmland and protecting the open spaces currently used for agricultural production from urban or suburban development. Empirically, we used focus groups to establish our evidence. We conducted a series of focus groups in two locations, Winters in the Sacramento Valley and Watsonville on the central coast. In each place we had three groups of five to ten participants: town residents, rural residents and farmers. Each of the focus groups asked the participants to describe any interactions they had with agriculture in their area. They were then asked about the positive and negative aspects they perceived from agriculture, and their wish list for farmland in their county for the next ten to thirty years. Finally, participants were asked to define open space. The results for the three types of participants are presented below.

> *"Multifunctionality refers to the fact that an economic activity may have multiple outputs and, by virtue of this, may contribute to several societal objectives at once." (OECD, 2001)*

Town Residents

The Winters town residents talked about the benefits of living in a small town, especially the lack of congestion. The most important benefits from agriculture were lower stress, decreased crowding and a healthier environment. In Watsonville, the town residents discussed the high rent of the land, and the high cost of housing in the area due to the demographic pressure from people commuting to San Jose. In addition to the positive aspects mentioned in Winters, they identified eating high quality fresh local produce and waste recycling as direct benefits from agriculture.

When asked about things that they would like changed, the Winters group mentioned stopping the burning of rice straw and increased public open space as a contingency against development. In Watsonville, there were two additional concerns: inadequate farmworker housing and the lack of young people entering farming. In both locations, town residents strongly supported clean air and access to open space.

When asked about their wish list for the next 10-30 years, the Winters group expressed concerns about the preservation of family farms in the area, planned growth, agriculture in public education, and the creating and maintenance of open space between development. In Watsonville, the town residents'

Walnut orchard bordering a residential neighborhood in Winters, located in the Central Valley of California. Photo by Karen Klonsky

wishes included more organic agriculture, smaller companies and better water management. Overall, the Watsonville town residents placed more importance on reducing pollution from agriculture, and the Winters residents talked more about public access and wildlife as side benefits of agriculture.

Significantly, there were interesting discussions regarding open space and farmland in both groups, as well as in the rural resident groups (see below). In the Winters groups, several residents did not think that farmland was open space unless there was public access. In the Watsonville groups, participants did not view farmland as open space at all. For them, farmland is a space holder that slows development but does not provide public access and wildlife habitat in the way that parks and nature reserves do.

Rural Residents

In the Winters rural residents group, most participants had lived in the area for many years. They had a broader list of benefits from agriculture than the town residents. They talked about the relief from congestion, the importance of food security and the provision of wildlife habitat directly near their homes. In the Watsonville group, the residents came from a broad geographic area surrounding the town. Their list of benefits from agriculture included delivery of fresh produce, children interacting with nature, beautiful scenery, personal safety and rural landscapes.

When asked about the negatives of agriculture, members of this group were much more specific about agricultural practices in the area than the town residents were. In Winters, they talked about high-speed tomato trucks in the area, being awakened by crop dusters early in the morning, rice burning, pesticides, the high use of water and the dust created by farming operations. They also discussed restricted access to land and zoning restrictions related to purchasing and dividing farmland. In Watsonville, the group talked about the pesticides, chemicals and runoff, the odors and noises, and the plastic in the strawberry fields. The discussion was turned toward the health risks from exposure to pesticides

When asked about their wish list for the next 10 to 30 years the discussion in Winters turned to infrastructure. They talked about open space and access to hiking trails. They wanted farming to become more efficient and reduce its use of water, fertilizers and pesticides. They also wanted farmers to become less dependent on government subsidies. In Watsonville, much of the attention was turned toward the reduction of chemicals, but also the question of farm worker housing. Several people mentioned the increase of organic food. They discussed habitat only in the context of land out of agricultural production. One urban resident said that a benefit from farming was that it kept houses from being built, so the view of the ocean was not blocked from the highway. There was a much greater concern with local negative environmental impacts from agriculture in Watsonville than in Winters.

Farmers

In Winters, the farmers immediately mentioned the importance of farms providing wildlife habitat. They argued that the presence of farmland was a benefit to people from the cities who come out to the country on the weekends for drives or bicycle rides. To them, viewing the farmland was equivalent to access to farmland; farmland was synonymous with open space. The farmers also talked about food security and the risk of shifting farmland into wildlife habitat and out of production. Food was viewed as a necessity and parks as a luxury. In Watsonville, the farmers only mentioned wildlife among other benefits. In their view, agriculture provides a range

of services, from land care to maintenance of open space and reducing development growth, and also providing employment opportunities. Also, agriculture appeared to them as the main support for fresh air, water and oxygen.

When asked about the negative impacts of farming, the farmers of Winters instead began to talk about the problems that farmers now face. These included difficulty in making a living, low margins, access to water, farmer dependence on government subsidies, problems due to the enforcement of the Endangered Species Act and the omnipotent threat of development. They did finally mention problems of soil erosion, loss of topsoil, air pollution, salt build-up, and groundwater depletion. Their wish list included better services from the county, including fire and water, stopping the dumping of garbage on farm property, and a slowing of development even though they owned land that had potential for development.

Field of calla lilies, with the Pacific Ocean as a backdrop, outside of Watsonville on the Central Coast of California.

Photo by Karen Klonsky

The rest of their comments pertained to ways to improve profitability from farming. In Watsonville, the negative aspects of farming included pesticides, methyl bromide, runoff, salt buildup, low-quality labor and noise. Their wish list also emphasized reducing the number of complex regulations which prevent them from "breathing" in their activity. The farmers also talked about the possibility of going to agro-tourism, to have more organic farmland, and, mainly, to keep land in agriculture.

Conclusion

Based on these results, we suggest some direction for multifunctional policies in agriculture in California. California's rural landscape is already in the process of change. Some existing programs encourage farmers to voluntarily enter into contracts to keep their land in agriculture. In the valley, farmland preservation is defined as a public priority to reduce the expansion of towns. This also includes improving urban planning to accommodate population increase while maintaining the agricultural character of the valley. Residents and farmers agree on these common objectives. Public policy will be likely to follow these goals as a priority. On the coast, the public seems to prefer spending public money for the reduction of environmental externalities, for either more stringent regulations of agricultural production or to support the use of less intensive practices. This does not follow the farmers' interests, who would prefer to reduce the regulatory pressure and let the farmers be the stewards of the land. Supporting the preservation of farmland as a multifunctional objective may not be compatible with the increase of environmental regulatory pressure. This conflict of interest is likely to be present among pressure groups at the legislative level, where farming groups and agricultural interest groups will compete with environmental groups. This situation may lead to a separation of public preferences from public policy.

To design multifunctional policies in California, it is necessary to account for the diversity of landscapes and environmental conditions. Local authorities could help make sure the state policies respect this diversity of objectives.

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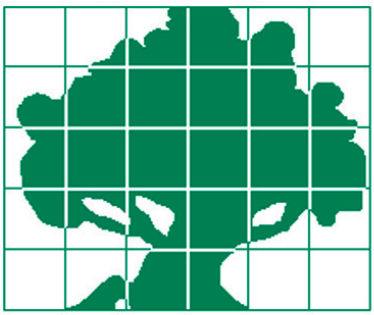

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